



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

man, which is called economy, the latter is the more potent factor. Thus Dr. Friedrich makes very little allowance for the influence of natural conditions in economic geography, because the ingenuity of man, by means of science and trade, may change the economic aspects of a given region almost beyond recognition. The only geographical factor whose influence man has never been entirely able to overcome are the climatic conditions, and it is in these, therefore, that the author places the relation between economics and geography.

The special part of the book has been brought up to date generally and been enriched by many new statistics. The book remains in its present shape, as it was in the first, one of the most valuable contributions to the subject, from the practical as well as the scientific point of view.

M. K. G.

Alaska. Ein Beitrag zur Geschichte Nordischer Kolonisation. Von Prof. Dr. H. Erdmann. 215 pp., 68 Illustrations and Sketch Maps and Folded Map. D. Reimer (E. Vohsen), Berlin, 1909. (Price, M. 8.)

This book gives the results of personal observation and studies by one of Germany's most noted technical chemists, who visited Alaska in 1906, at the request of the Imperial Minister of Education. Professor Erdmann has brought to his task the experience gained through previous journeys to workings in auriferous gravels and gold mines along the eastern border of the Ural Mountains, from Kotchkar to Berizov, the mines of the Altai Mountains and eastern Siberia, the rich localities of northern Mongolia, Manchuria and Japan, and of China proper, including those of the German sphere of influence in the region of Shantung. The general result of the author's studies is that Germany, sooner or later, must possess gold-producing localities within her own territory, colonial or other, or lose standing among the world powers. Another conclusion is that the local conditions surrounding gold-bearing localities vary indefinitely, and that lucrative extraction is only possible when all these local conditions are taken into account in determining the manner of winning the precious metal. The truth of the latter conclusion is likely to be generally accepted, but the former seems open to debate.

Professor Erdmann's book falls naturally into four main parts in his treatment of the gold fields of Alaska. These are southern Alaska and the primary occurrences, Dawson and the Klondike region, the Fairbanks district in mid-Alaska and the coast district of Nome and the Bering Sea. The author sketches briefly the history of each region. He relates the early discoveries by Joseph Juneau of gold on the mainland in the now exhausted region around the town that bears his name. From the "city" of Juneau one looks across the Gastineau Channel to Douglas Island, where in the year 1881 John Treadwell, a San Francisco builder, unwillingly began to prospect a tract of land that he had been obliged to take in satisfaction of a \$150 debt. Now almost 1,200 men are required there to work the famous Treadwell mine, which exploits the only vein quartz that is successfully mined in all Alaska. The author estimates that, in spite of more than twenty-five years of active mining, the Treadwell property is only in the beginning of its history.

The story of the Klondike district is familiar to most American readers. Gold had been known in rather small amounts for some years at Forty Mile on the Yukon River at the International boundary, when Robert Henderson and George Carmack, in 1896, went upstream prospecting, the former up the Hunker branch, the latter up the Bonanza. When the news spread that Carmack was

washing pay dirt at the rate of \$12 or more per pan, the rush began that depopulated Forty Mile and in ten years resulted in bringing 80,000 people into the region of the Upper Yukon and in developing the gold resources of about 1,200 square miles of territory. The \$120,000,000 in gold that has been won from the Klondike is, according to Erdmann, only half of what may reasonably be expected from the district. The geology of the district has been worked out by the Canadian Geological Survey, and the author gives a concise, clear summary statement of the origin of the "White Channel" formation, containing the precious metal.

The Fairbanks district along the middle course of the Tanana River and its tributaries first came into notice in 1904 and has had a remarkable development, even for a gold field. The gold, like that of the Klondike, is won entirely by washing, and very active work can only be done in the summer season. The rapid development of the district is shown by the presence there in the summer of 1906 of about 6,000 men and the production of \$9,500,000 in gold. The conditions at Fairbanks and vicinity favour underground excavation in winter as well as summer, hence during all the year the gold sand is brought up by buckets and dumped into great conical piles. These piles are hydraulicked and sluiced during the short summer season, when water is abundant.

The coast district of Nome on the border of the Bering Sea is the most peculiar in the method of occurrence of the gold-bearing sand and gravel, the pay being the beach. This has led to special methods of washing which are generally familiar to Americans, but which are well described and illustrated in this book. The Nome region has furnished some remarkable records for placer workings. Sand from Little Creek occasionally runs \$125 to the pan, while at Anvil Creek nuggets weighing 6.6, 7.7 and 11.1 pounds have been found. The gold production of the Seward Peninsula (Nome and vicinity) has risen from about \$15,000 in 1897 to about \$8,000,000 in 1906.

As to the future of mining, Professor Erdmann feels that the Klondike district alone can be thought to be even half exhausted. Although predictions are notoriously unreliable, borings indicate such an extent of secondary gold beds that the author expresses the opinion that Alaska will become the greatest gold producing country in the world. The first decade of its history has seen nearly \$250,000,000 of gold produced there and the next thirty years is likely to see this amount quadrupled before the fields show great signs of exhaustion.

The author's route led by way of the monopolistic railway from Skagway over White Pass to White Horse in the Yukon basin, and thence by steamboat down the rivers to Dawson. From Dawson, Professor Erdmann continued his journey by steamer down the Yukon River to Circle, an important American settlement almost under the Arctic Circle, noting on the journey the great economy of time and labour effected by the steamboat company through substituting oil for wood as fuel. The oil is brought from California, in spite of the discovery of petroleum in Alaska. The geographical relations of mountain and stream, particularly of the Porcupine River, the nature of the gold nuggets, the flora and fauna of the country are given in a few clear sentences. At Circle, our author left the steamer and the usual route of Alaskan travel and took the overland trail to Fairbanks, which gave him opportunity to see an interesting bit of country, bearing great variety of trees, bushes and flowers. Here again, as in the Klondike and everywhere else, he was painfully impressed with the frequent wanton destruction of square miles of forest for the purpose of obtaining a few

cords of charcoal. In the Arctic regions, vegetation, particularly that of the forest, is of extremely slow growth. Of course, the mosquito, the plague of northern woods, played its part in making this journey memorable. The trail is rather blind in many places through subdivision to get around streams and through confusion due to cattle and game tracks. The cattle are brought up from Seattle by steamer to Skagway, thence by rail and steamboat to Eagle or Circle. There they leave the Yukon and are driven overland to the Tanana region. The Northern Light is so bright in Alaska, even in summer, that our author argues for a thorough investigation of the phenomenon and comparison with the Northern Light of Europe and Asia.

The journey down the Tanana and the Yukon was not accomplished without difficulty. The boats are small, and in the latter part of the summer are dangerously over-crowded. The steamboats are of the familiar type of stern-wheelers seen on the Mississippi and Ohio Rivers and other shallow American waters. The Yukon shifts its channel constantly, and one morning the "Leah," on which the author was a passenger, struck a rock that ripped most of the bottom off the hull and caused the boat to sink. After spending three days of discomfort in rainy weather on the boat and in tents on shore, the steamboat "Campbell" rescued the shipwrecked party. She was far too small for the "Leah's" passengers, but they crowded aboard, and, after three and a half anxious days on the river and a bit of the sea, were safely transferred at St. Michael to ocean-going ships that took them to Nome, whence the return to Seattle was easy.

The book maintains its interest from first to last. The author kept his eyes open at every point of his long journey and describes in clear, vivid terms what he saw. Eskimos and their characteristics in different parts of Alaska and other tribes as he met them; travel conditions past and present, with remarks upon the cost and other features of life at the several points visited; wages and the rewards of labour; peculiarities of American and Canadian manners and customs; agriculture and forestry and their future; the metals and minerals associated with the gold,—all these and other valuable points are touched upon and treated briefly in suggestive fashion.

The book is beautifully printed upon heavily coated paper that takes the half tone illustrations well, and one can only wish that photographs had been reproduced more freely.

E. O. H.

Essai Sur Les Principes Des Sciences Mathématiques. Par Louis Delègue. 134 pp., Figures, and Index. Vuibert et Nony, Paris, 1908.

Our knowledge of space is limited in two ways. It is inexact, consisting only of the crude facts of experience; and it is restricted to a limited portion of space. In evolving a geometry of space, it is necessary to idealize these inexact matters of experience, that is, to regard them as mathematically exact. In short, it is necessary to assume the existence of mathematical points and lines, the continuity of space, the invariance of the properties of figures when displaced, and many other things.

When premises contain an assumption, there must be more than one equally valid conclusion; and hence mathematicians have long since learned that there are several systems of geometry, each exempt from self-contradiction but yet not at one among themselves.

It is through the critical examination of the necessary and sufficient premises upon which these systems of geometry are constructed and their mutual inter-